

Wall-Mounted Sealed Electronic and Modulating
Condensing Gas Boiler for Heating and the
Production of Sanitary Hot Water

Installation and User Manual



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- Model Corolla 26 complies with Directives EEC 90/396 and EEC 92/42
- The Manufacturer reserves the right to modify the data included in this documentation at any time and without any previous warning.
- This manual simply provides information and cannot be compared to a contract towards third parties.

Meaning of the symbols used in the text:



All information written after this symbol should read paying special attention, as they involve safety and compliance with the applicable Law.



All information written after this symbol deal with particularly important aspects related to boiler installation, operation, and maintenance.

Dear Customer,

congratulations for Your choice and thank You for the trust You place in our products. With your Purchase You have chosen a technology which is the best synthesis of energy saving and functionality, compliant with the strictest European safety standards.

We kindly ask You to read the content of this Manual carefully, as You will find useful advice and directions which will help You operate the boiler effectively and efficiently, increasing its life and Your home comfort.

We also ask You to preserve these instructions and make them available, when required, to the technician or installer, to ensure easier and correct boiler installation, operation and maintenance.

A label is affixed inside the boiler, specifying the equipment's main data, regarding its commercial name, manufacturing (registration) number, nominal thermal power, power supply voltage, and gas feeding pressure.

Tab. 1

Corolla 26 – Short Description

Corolla 26 is available on the market in two different versions:

XER Version

Heating and production of hot sanitary water.

SER Version

Heating only.

The main technical data are specified in Table 1; for further details, please see the table on the back of this manual

Gas condensing sealed pre-mixed boiler
Modulating from 30% to 100% of its power
Furnace power (Hs): 26 kW
Maximum useful power: 25.10 kW
Available in two versions
XER instantaneous production of hot sanitary water
SER heating only
Microprocessor electronic management
Set for climate regulation
Set for remote control
50mm polypropylene flue gas exhaust pipe
Equipped with internal bypass
DIN connections
CE homologation number: 0085BM0032
CE 92/42 efficiency class: ☆ ☆ ☆ ☆
Nox Class: fifth

**Installation**

In order to ensure safety and correct operation, the installation shall always take place in full compliance with the applicable Law and with the instructions provided by the Manufacturer, and will always be carried out by professionally qualified technical personnel only. The equipment shall be installed in a suitable area, and connected to ad-hoc systems installed in accordance with the applicable Law.

**Warranty**

Warranty assistance will be ensured only if the warranty slip validated during the start-up is shown.

The Manufacturer disclaims any and all responsibility resulting from damage due to tampering, improper use or mistakes made during equipment installation, operation and maintenance. In the event of a failure or malfunctioning, disconnect the equipment and do not try to repair it. Call the Technical Support Service.

**Start-Up**

The boiler shall be OPERATED FOR THE FIRST TIME by authorised Technical Support Service only, within 8 days after equipment installation. During the start-up, the Technical Support Service shall complete the Warranty Certificate and leave you a slip – to be preserved -, thus starting the warranty period, whose conditions are specified on the slip itself.

**Mandatory Maintenance**

Maintenance is mandatory and shall be carried out at least once a year (Italian Presidential Decrees 412/93, 551/99). Please call Your local authorised Technical Support Service. In any case, maintenance should always be performed by qualified technicians, pursuant to the applicable Law.

**Installation and User Manual**

This manual shall be read carefully, in order to operate the boiler in appropriately and safely, and shall always be accurately preserved. Fontecal disclaims any and all responsibility deriving from any translations which may result in wrong interpretations.

1 Boiler Installation

1.1 Information for Correct Installation

Corolla 26's original features ensure a series of advantages, both during installation and during operation, provided that some preventive measures are taken. Therefore, in order to simplify installation procedures and prevent the need for unwanted changes or later adjustments, all recommendations required for the correct installation of Corolla 26 are provided in the following pages, to safeguard the installer's professionalism and to ensure the customer's utmost satisfaction.

System Cleaning

This preventive measure is absolutely required whenever a heat generator needs to be replaced in **existing systems**, but it is in any case recommended also on new systems, in order to remove any waste, dirt, working residues, etc.

TO CLEAN THE SYSTEM, IF THE OLD GENERATOR IS STILL PRESENT IN THE SYSTEM,

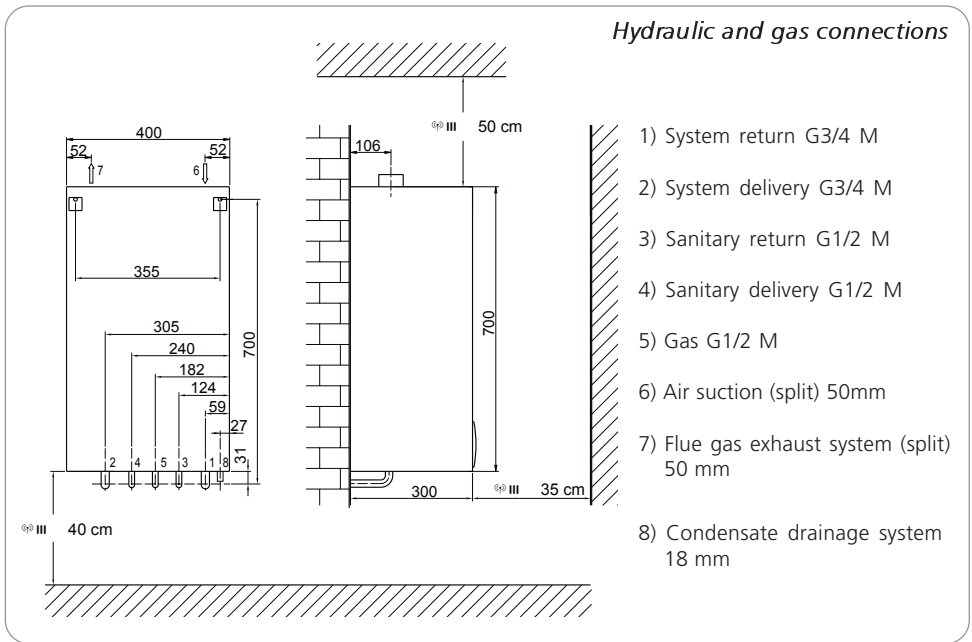


Fig. 1

- Add a descaling additive , such as FERNOX Superfloc 2%, to the system water;
-
- Have the system operate with the generator ON for approximately 7 days;
Discharge the system's dirty water and wash the system once or several times using clean water. If the system is very dirty, repeat the last procedure one more time.

If the old generator is not present or available, use a pump to circulate the water + additive through the system for about 10 days and perform a final washing as described in the previous paragraph. At the end of cleaning operations, before installing boiler Corolla 26, it is advisable to add protection fluid FERNOX MB-1 AT 4% to the system water. For additional information on the use and features of FERNOX additives, please call Fontecal's toll-free number.

Installation Room

Boiler Corolla 26 is equipped with a combustion circuit which is sealed in relation to home environments. Therefore, pursuant to Standard UNI-CIG 7129/92, it may be installed in any room, without any specific requirement

Outdoor Installation

It is not advisable to install boiler Corolla 26 outdoor: indeed, direct exposure to the elements, especially in particularly polluted areas, may result in corrosion on the boiler's shell; if necessary, install the boiler inside a closet or a protection case.

1.2 Boiler Wall-Mounting

The boiler must be installed on a solid masonry wall by means of hooks, which are supplied together with the boiler, inside the packing. The hook position ensuring boiler correct installation can be determined using the cardboard template, to be found in the packing (see figure 1).

- Place the template supplied with the boiler on the wall, at a height of approximately 140 cm from the ground, using a water level to ensure that the holes are perfectly horizontal.
- Secure the template on the wall temporarily and mark the boiler's mounting holes on the wall
- Drill the holes and install the screw anchors supplied with the boiler

To ensure easy operation and facilitate maintenance procedures, comply with the minimum distances from immovable objects specified in figure 1.

The boiler should be installed at a height ensuring that its upper part cannot be reached with your hands



Do not install in dusty and very damp areas. In case of outdoor installation, the boiler should be protected from RAIN, DAMPNESS, and DUST, and should not be easily accessible to non authorised people, children, animals, or anything which may damage or be damaged by the boiler.

1.3 Air Suction and Flue Gas Exhaust System

Type

Boiler Corolla 26 is a pre-mixed, blown, condensing boiler identified as a C63x-type boiler, i.e. sealed with respect to the environment; therefore, as previously mentioned, it can be installed in any home room, with no limitations whatsoever. Its peculiar feature is that it is a condensing boiler, therefore the temperature of its flue gas is much lower than the temperature of flue gas produced by traditional boilers.

Consequently, flue gas can be exhausted through plastic exhaust pipes.

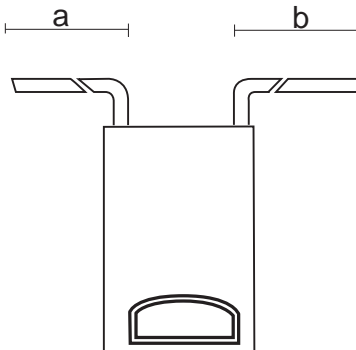


Never channel the flue gas coming from several boilers into the same exhaust pipe. Each boiler must have its own independent exhaust pipe. Remember that, should it be necessary to extend the exhaust pipe beyond 4 metres, it is always advisable to create a siphon at the foot of the vertical section of the piping, as shown in the figures.

Maximum Length of Vacuum and Exhaust Systems

Thanks to the considerable residual head of the blower, vacuum and exhaust pipes having a 30mm diameter can be extended up to an overall maximum length of 30 metres, if the entire system is straight. For each 90° bend having a 50mm diameter, consider a corresponding length of approximately 2.5 metres. As an example, for the installation shown in figure 4, with two 90° bends, the maximum length of straight pipes is 25 metres. Should it be necessary to extend the piping beyond the maximum allowed length, preventively contact the On-Line Technical Support Service.

Corolla 26 is supplied together with an optional vacuum and exhaust kit for the applications described below.



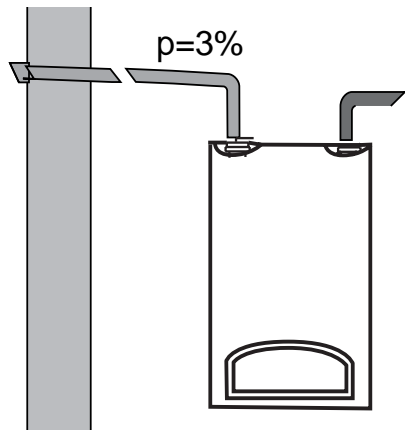
Example:

$$\begin{aligned} \text{Maximum length} &= a + b - 2 \text{ 90° bends} \\ &= 30 - 2 \times 2.5 = 25 \end{aligned}$$

Wall-mounted Exhaust System

The wall-mounted exhaust system, in the circumstances provided for by the applicable law, can be installed, as shown in figure 5, using the following components:

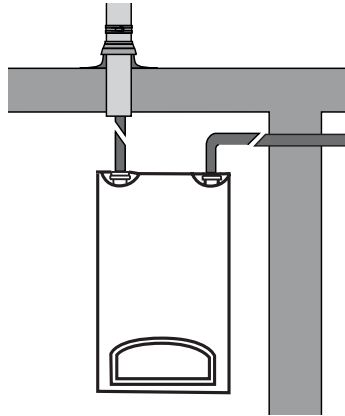
- 2 stub pipes, diameter: 50, L = 0.25 m
- 2 90° bends, diameter: 50
- 2 pipes, diameter: 50, L = 0.50 m
- 1 stainless steel suction end-pipe
- 1 stainless steel exhaust end-pipe



Installation on a Flat Roof

For this type of installation, the recommended components are the following:

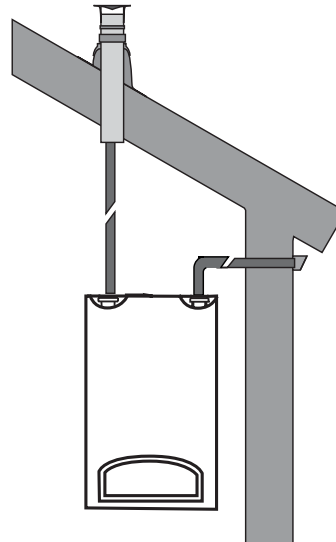
- 1 stub pipe, diameter: 50, L = 0.25 m
- 2 90° bends, diameter: 50
- 2 pipes, diameter: 50, L = 0.50 m
- 1 stainless steel suction end-pipe
- 1 stainless steel exhaust end-pipe



Installation on a Slanted Roof

For this type of installation, the recommended components are the following:

- 1 stub pipe, diameter: 50, L = 0.25 m
- 1 90° bend, diameter: 50
- 2 pipes, diameter: 50, L = 0.50 m
- 1 stainless steel suction end-pipe
- 1 end pipe for slanted pitch roof with roof-tile



Use of Old Flues

Corolla 26's exhaust pipe cannot be connected directly to existing flues used for other purposes (kitchen hoods, boilers, etc.).

Conversely, an old flue or cavity no longer suitable for their original purpose may be used as a technical slot through which the exhaust and/or vacuum pipe of boiler Corolla 26 can be routed. The installation shall be carried out in accordance with standard UNI 10845, which should be taken as a reference for further clarifications on this topic. Some examples of this type of application are provided in figures 2, 3, 4

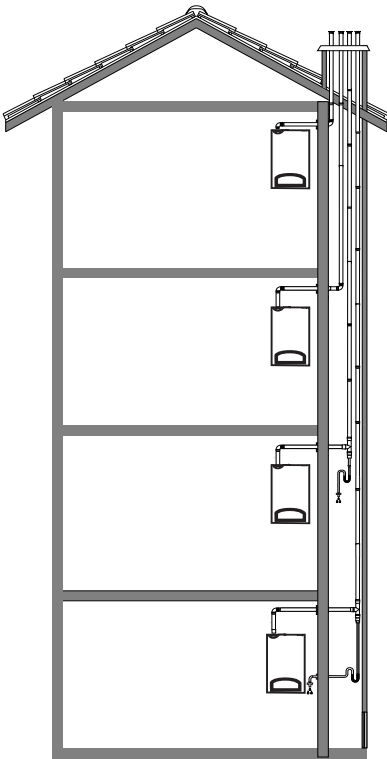


Fig.2
Multiple installation of wall-mounted boilers with wall-mounted vacuum system and exhaust pipes routed through a technical slot

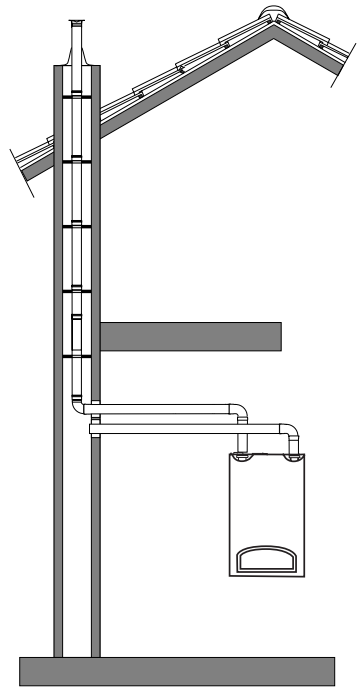


Fig.3
Installation with vacuum system in technical slot and exhaust pipe routed through same

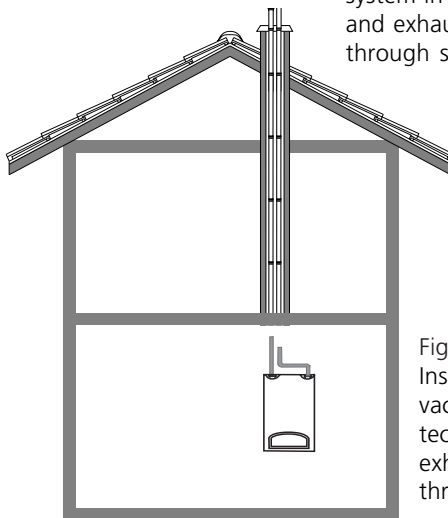


Fig.4
Installation with vacuum system in technical slot and exhaust pipe routed through same

Condensate Discharge System Installation

The condensate water produced by boiler Corolla 26 during its normal operation shall be discharged at atmospheric pressure, i.e. by dripping into a siphon-shaped container connected to the home sewage system, as described in the following procedure:

- a) Create a drip pan under the condensate discharge system (see position on the installation template);
- b) Connect the drip pan to the sewage system by means of a siphon.

The drip pan may be created by installing a glass or, simply, by means of a polypropylene bend which receives the condensate flowing out of the boiler and the fluid, if any, dripping from the safety valve, as shown in figure 5. The maximum distance between the boiler's condensate discharge and the collection glass (or glass-shaped piping) shall not exceed 10 mm. To connect the system to the sewage system, install or create a siphon to prevent unpleasant smell. It is advisable to use plastic pipes (PP) to create the condensate discharge system. Never use copper pipes, as the condensate would rapidly damage them.

Siphon Along the Exhaust Piping

Should it be necessary to extend the vertical or the horizontal section of the exhaust piping to over 4 metres, create a siphon-shaped condensate drainage system at the foot of the pipe. The siphon's useful height must be at least 30 cm. The siphon discharge shall then be connected to the sewage system.

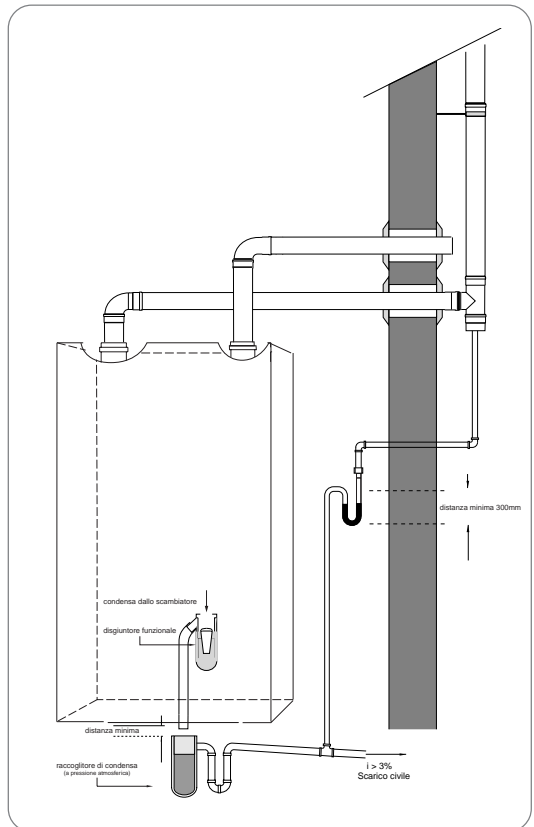
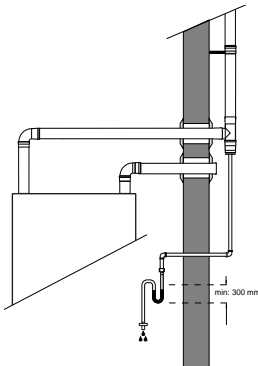
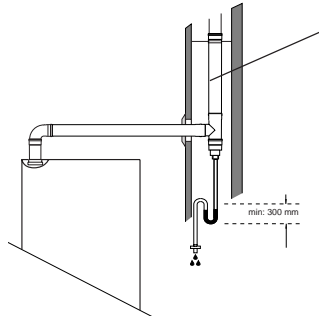


Fig. 6



Siphon along outdoor exhaust piping

Fig. 7



Siphon along exhaust piping inside a cavity.

Siphon along exhaust piping inside a cavity.

In order to ensure that boiler Corolla 26 always operates in ideal conditions, and that its performances do not vary considerably depending on the length of the flue gas exhaust pipe connected to the boiler, a function modifying the gas valve and the blower management algorithm in relation to the entire flue gas system (vacuum + exhaust)'s length has been integrated on the electronic card.

This function includes two boiler operation modes:

- a) Flue gas system's overall length below 15 metres.
- b) Flue gas system's overall length over 15 metres

One or the other configuration can be selected by moving three jumpers on the boiler's electronic card (see item J3 on page 18), as illustrated below:

	Methan	LPG
a) Below 15 metres	P0 P1 P2 	P0 P1 P2
b) Over 15 metres	P0 P1 P2 	P0 P1 P2

1.4 Hydraulic Connection Procedures

The cardboard template supplied with the equipment allows for correct hydraulic connections. Figure 1 shows how connections are located on the wall. Boiler hydraulic connections can be made using the appropriate kit in the boiler and following this procedure:

- Loosen and remove the plugs located on the boiler connections to contain the test fluid
- Use the relevant devices (no. 1 in figure 8) to connect the pipes (no. 2 in figure 8) included in the kit
- Use the “double-cone” fittings (no. 3 in figure 8) to connect the pipes to the wall-mounted “female” connections

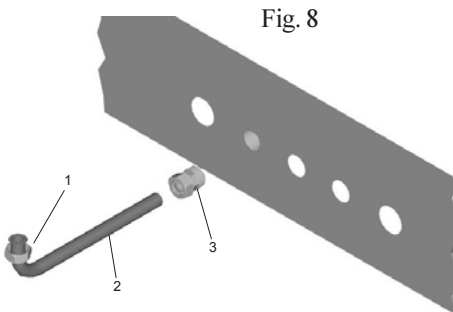


Fig. 8

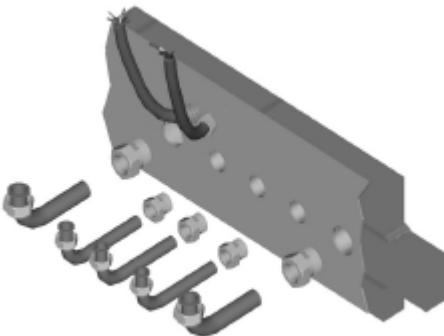
Figure 9 shows how the connections sequence is located on the wall. Upon request, the cutoff cocks kit is available. As regards its use, please see the relevant instruction sheet supplied together with the kit.



The water main's water pressure at the boiler's inlet shall be checked and kept below the value specified on the plate affixed on the boiler. To that purpose, install a suitable pressure reducer upstream of the boiler.

Feed the system up to a pressure of 1bar

Fig. 9



The expansion tank is sized for systems having a water content of up to approximately 150 litres; should this be insufficient, an additional tank needs to be installed.

Figure 11 shows the curve of available head for the system (the boiler's flow resistance values have already been taken into

consideration), in relation to the water flow rate. The boiler is fitted with an internal bypass, which ensure a minimum circulation of water even in case the zone valves, if any, present in the system should close at the same time, thus protecting the primary exchanger from thermal shocks caused by insufficient circulation. The bypass can be disabled by rotating the shutter located on the hydraulic assembly (no. 2 figure 10).

The expansion tank is sized for systems having a water content of up to approximately 150 litres; should this be insufficient, an additional tank needs to be installed.

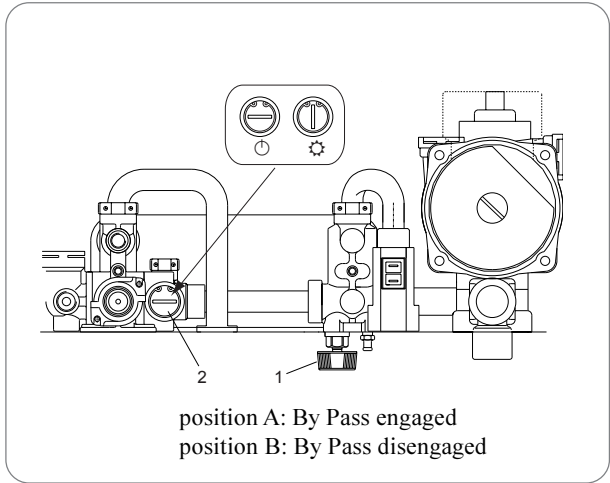


Fig. 10



Before boiler installation, it is advisable to clean the system having water with a descaling additive run through it. Then fill the system using a protection additive.

The boiler includes a function preventing ice formation in the pipes.

In any case, this function will not be enabled in case of loss of power supply, lack of fuel or in case of failures.

In areas subject to considerable temperature drops, it is therefore advisable to add an appropriate amount of antifreeze to the system's water.

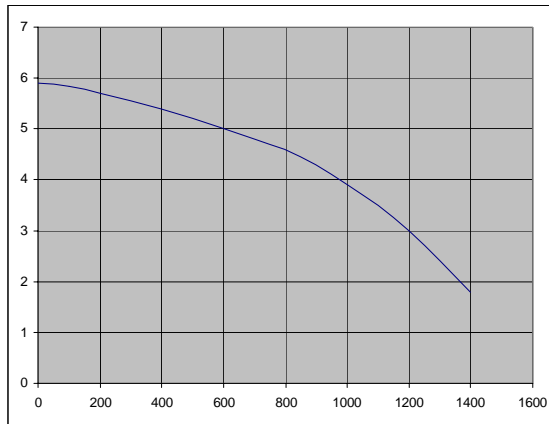


Fig. 11

l/h	mca	l/h	mca
1400	1,8	600	5
1300	2,4	500	5,2
1200	3	400	5,4
1100	3,5	300	5,55
1000	3,9	200	5,7
900	4,3	100	5,85
800	4,6	0	5,9
700	4,8		

1.4.1 Hydraulic System Drawing

Corolla 26 is available in two different versions:

SER: heating only

XER: heating and instant production of hot sanitary water.

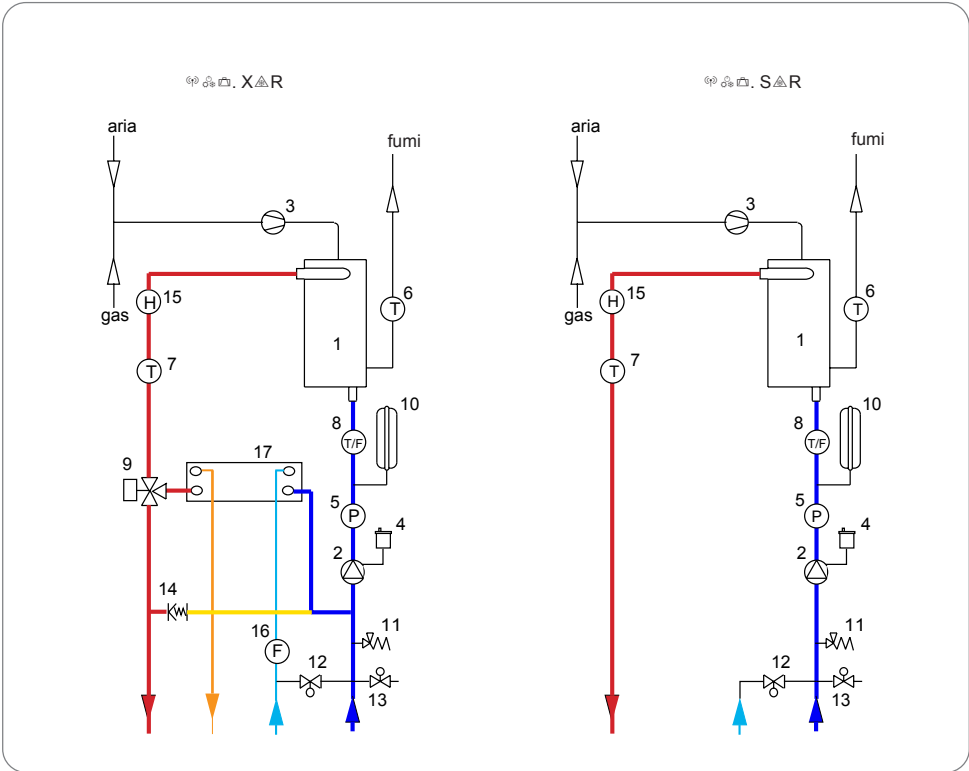


Fig. 12

Legend

- | | |
|---|--------------------------------------|
| 01 Exchanger | 10 Expansion tank |
| 02 Circulator | 11 Safety valve |
| 03 Fan | 12 Filling tap |
| 04 Deaerator | 13 Discharge tap |
| 05 Minimum pressure switch | 14 Bypass |
| 06 Flue gas temperature probe | 15 Safety thermostat |
| 07 Heating temperature probe (delivery) | 16 Sanitary flow gauge |
| 08 Heating temperature probe (return) | 17 Sanitary hot water heat exchanger |
| 09 Deflection valve | |

1.5 Electrical Connection Procedures



Before starting the electrical connection of boiler Corolla 26, as described in the following paragraph, it is always advisable to install a magnetothermal differential switch $I_n = 10$, $I_{dn} = 0.03$ along the boiler's power supply line.



The power supply and the control cables (remote control, temperature outside probes, etc.) must be completely separate from each other and installed inside independent PVC corrugated conduits, up to the electrical panel (see installation template). The connection to the mains shall be carried out using sheathed cables type 1 (3 x 1.5) N1VVK or equivalent, while simply N07VK or equivalent wires may be used for thermal regulation and low voltage circuits.



Should electricity be supplied by the Utility with a "phase-phase" system, preventively contact the local Technical Support Service.



Never switch off the boiler during its normal operation (when the burner is on), suddenly cutting off the power supply by means of the on-off button or of an outer switch. This may cause an anomalous overheating of the primary exchanger. To switch off the boiler (in the heating phase) use an environment thermostat, a remote control or the relevant summer/winter button located on the control panel. The on-off button can only be used when the boiler is in stand-by (the screen displays a 0 followed by a temperature value) or in case of emergency.



Prepare the electrical wires and cables and the conduits for their routing, as shown in the electrical drawing (related to the boiler model that should be installed) included in this manual's technical sheets.

Before connecting external electrical components (regulators, electrical valves, outside temperature probes, etc.) to the boiler, make sure that their electrical features (voltage, absorption, pickup currents) are compatible with the available inputs and outputs.

1.5.1 Earthing System

Always check the effectiveness of the "earthing" of the electrical system to which the boiler is going to be connected. Should it be inefficient, this may affect the proper operation of the ignition electrode and the detection electrode, and early corrosion may take place on the accumulation boiler, if present.

1.5.2 Power Supply Connection

Connect the boiler to a one-stage 220 V-50 Hz electrical line, using the contacts specifically reserved in the terminal strip located inside the tool box schematically shown in figure 12. Three connectors are reserved for the Phase-Earth-Neutral power supply, the remaining ones can be used for auxiliary devices (environment thermostat, remote control, outside probe, etc.).

To make the connection easier, the symbols related to each connection are shown on the terminal strip.



Connect the boiler to a one-stage 220 V-50 Hz electrical line, using the contacts specifically reserved in the terminal strip located inside the tool box schematically shown in figure 12. Three connectors are reserved for the Phase-Earth-Neutral power supply, the remaining ones can be used for auxiliary devices (environment thermostat, remote control, outside probe, etc.).

To make the connection easier, the symbols related to each connection are shown on the terminal strip.



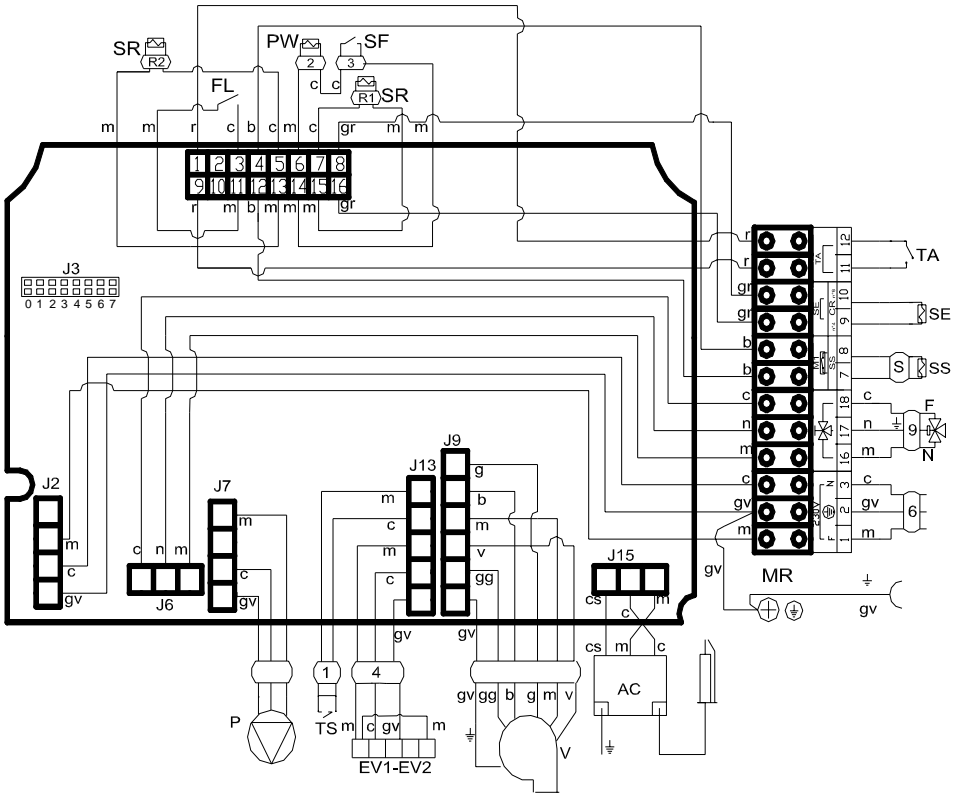
Special attention must be paid to prevent the swapping of the Phase and Neutral cables.

Moreover, check that the power cables are separated from the control ones by PVC corrugated conduits.

Finally, remember that the connection to the earthing line must be made as specified by Italian Law 46/90.

Fontecal disclaims any and all responsibility resulting from damage to property or people, due to the failure to earth or the inefficient earthing of the power supply system or to failure to comply with the applicable CEI standards.

1.5.3 Electric Board



Legenda

- MR = Mains terminal strip
- SR = Heating probe
- SS = Sanitary probe
- P = Boiler pump
- SE = Outside probe (optional)
- TA = Environment Time-thermostat
- TS = Water safety thermostat

Cable Colours

- b white
- c light blue
- g yellow
- gg grey
- gv yellow green
- m brown
- n black
- r red
- vi violet

1.6 Gas Network Connection



Check that the gas used is the same for which the boiler is built (see boiler rating plate).

Check that the gas meter capacity is such as to ensure the simultaneous operation of all appliances connected to it.

The boiler shall be connected to the gas supply network in full compliance with the applicable laws and standards.

The gas supply piping diameter shall be determined in relation to its length and flow resistance values, and the boiler meter, so that constant pressure is ensured when the boiler is operating steadily, i.e.:

- a) Methane feed: ideal pressure 22 mb
- b) LPG feed: ideal pressure 30 mb



If fluctuations are known in the methane gas supply pressure, it is advisable to insert a pressure stabiliser upstream of the gas inlet into the boiler. In case of LPG feed, take all necessary precautions to prevent the freezing of the fuel gas in case of particularly low outside temperatures.

Should it be necessary to adapt the boiler to another gas fuel, contact your local Technical Service Centre, which will make all necessary modifications.

The installer is by no means authorised to carry out the above-mentioned operations.

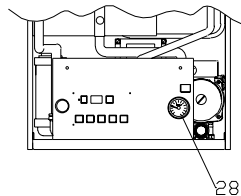
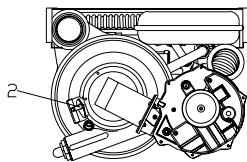
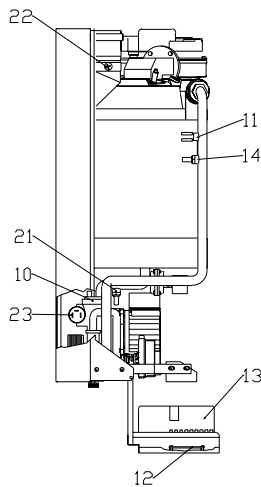
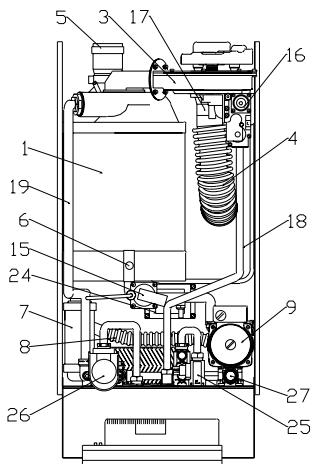
1.6.1 Gas change – Methane-LPG conversion

Boiler Corolla 26 can be modified for the use of LPG by setting some jumpers on the electronic card and introducing an ad-hoc baffle plate on the gas valve.

The jumpers to be set are P0, P1, P2 (see electrical drawing on page 18, item J3)

Settings are to be carried out as shown on page 12, thus taking into due consideration the flue gas system's overall length (vacuum + exhaust)

1.7 Corolla 26 - Boiler Components



Vista frontale con pannello comandi chiuso

Legend

- 01 Heat exchanger
- 02 Spark/detection plug
- 03 Blower
- 04 Vacuum pipe
- 05 Exhaust pipe
- 06 Flue gas thermostat
- 07 Condensate discharge system
- 08 Condensate discharge pipe
- 09 System circulator
- 10 Automatic air discharge
- 11 Safety thermostat
- 12 Control card
- 13 Ignition/Modulation Device
- 14 Delivery water temperature probe
- 15 Water differential pressure switch
- 16 Gas valve
- 17 Venturi
- 18 Gas infeed pipe
- 19 Delivery pipe to the system
- 20 Return pipe from the system
- 21 Return probe
- 22 Intake for flue gas analysis
- 23 Minimum pressure switch
- 24 Transformer
- 25 Flow gauge
- 26 Three-way driven valve
- 27 3-bar safety valve
- 28 Water gauge

2 Boiler Operation

2.1 Preliminary operations

Before operating boiler Corolla 26, ensure that

- The on-off valves on the gas line are open
- The general switch outside the boiler is on
- The hydraulic system has been filled. If this is not the case, fill the system following the instructions provided in paragraph 1.2

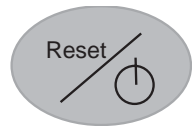
Check on the pressure indicator (water gauge no. 12, figure 18) on the instrument panel that the heating system's pressure ranges between 0.8 and 1.2 bar (below 0.5 bar the appliance does not operate).

Should a lower pressure be indicated, open - when the BOILER IS COLD - the filling tap until a value of 1 bar is reached.

At the end of the operation, turn off the tap

2.2 Boiler Ignition and Switch-Off

The boiler is switched on by pressing the "On/Off" button (no. 6 figure) for three seconds.



If the boiler needs to be switched off for a short time, press the "On / Off" button.

If the boiler needs to be switched off for a longer time, besides pressing the button mentioned above, switch off the general switch too, outside the boiler, and turn off the fuel gas cutoff cock feeding the boiler.

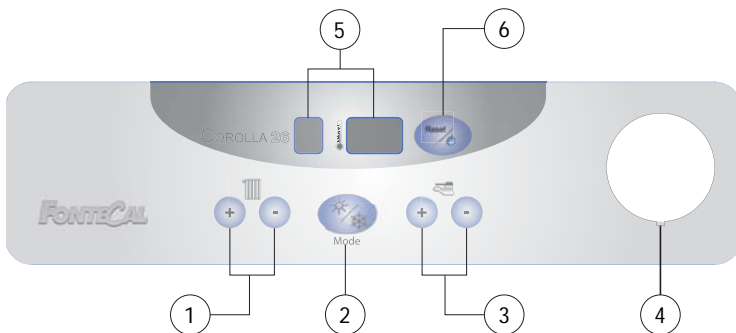


Fig 18

- | | |
|--|-------------------------------|
| 1 – Increase / Decrease Heating temperature buttons | 4 - Water gauge |
| 2 – Summer / Winter buttons | 5 - Display |
| 3 – Increase / Decrease Sanitary water temperature buttons | 6 – On / Off and Reset button |

2.3 Setting the Boiler Operation Mode

The boiler can operate in two modes:

- a) SUMMER mode
- b) WINTER mode



a) SUMMER mode

Operating in this mode, the boiler produces only hot water for sanitary purposes (washbasin, shower, etc.).

b) WINTER mode

In this mode, the boiler heats up the water for the heating system and for sanitary purposes.

When water is required for both purposes at the same time, priority is given to sanitary water.

To select one of the two modes, press the boiler operation mode switch: "SUMMER / WINTER" (no. 2 figure)

If the WINTER mode is selected, the display will show: 3 on for one second; if the SUMMER mode is selected, 3 of will be displayed.



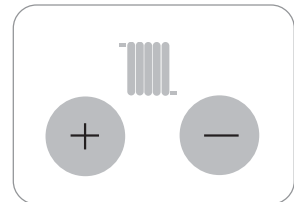
2.4 Adjusting the Water Temperature for the Heating System

2.4.1 Adjusting the Temperature for the Heating System when the Outside Temperature Probe is not enabled

In the WINTER mode, the boiler heats up the water which is sent by the circulation pump to the heating system's terminals.

The water temperature can be adjusted by the user by pressing the + or - buttons (no. 1 figure).

Number 3 will appear on the left display, while the right display will show the temperature set in centigrade degrees.



The temperature can be adjusted within a range between 20 and 80 centigrade degrees.

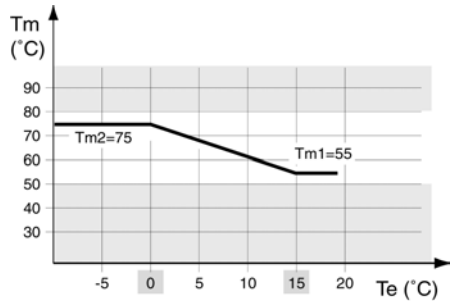


2.4.2 Adjusting the Temperature for the Heating System when the Outside Temperature Probe is enabled (optional)

The boiler is built to operate with an outside temperature adjustment function thanks to an outside probe which, once it is installed, is automatically recognised by the boiler's electronics.

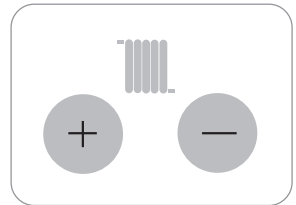
In this case, the operations described in the previous paragraph are no longer needed, since the heating water delivery temperature (T_m) is automatically set by the boiler's electronics in relation to the outside temperature (T_e), as shown by the straight line in figure .

Fig. 19



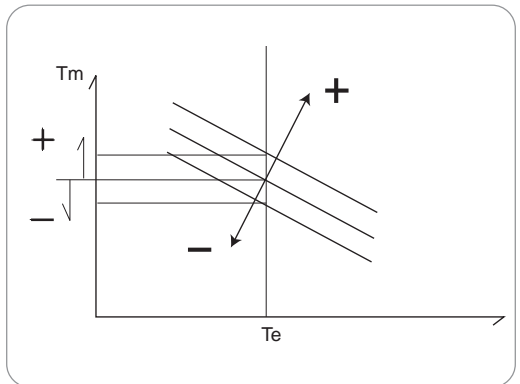
The straight line can be changed so that the outside temperature regulation perfectly matches the home's thermal insulation features, always ensuring maximum temperature comfort.

To modify the straight line, carry out the following procedure:
 - Pressing either the + or the - button of the heating system, the left display will show number 3, while the right display will show the current heating water temperature in centigrade degrees (which depends on the temperature outside the building at that specific time).



The lower the outside temperature, the higher the delivery temperature (T_m) will be.

Press either the + or the - button of the heating system once or several times. In this way, the straight will shift right or left, slightly or more visibly, in any case so that the outer temperature will correspond to a higher delivery temperature (if the + button is pressed) or a lower one (if the - button is pressed)

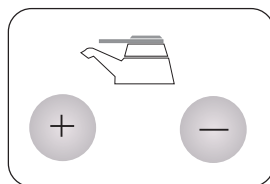


2.5 Setting the Temperature of Sanitary Water

Both in the SUMMER and the WINTER mode, if required, the boiler heats up the water for home use.

The hot water temperature can be adjusted by the user by pressing the + or - buttons (no. 3 figure 18). The left display will show value "4", while the right one will show the temperature of the water sent to home utilities, in centigrade degrees. Every time the button is pressed, the temperature will increase or decrease by one degree.

The temperature can be adjusted within a range between 30 and 60 centigrade degrees.



2.6 Using the Boiler with the Environment Thermostat

The environment thermostat (or time-thermostat) is a device located outside the boiler. It should be installed around 1.5 above the ground on a wall inside the flat, away from the sun and the heaters. This device controls the heating system operation, keeping the flat air temperature under control.

When the device is activated, it disables the heating system, i.e. it switches off the pump and the burner.

The environment thermostat has at least three operation positions:

- **0** - Complete disabling of the heating system (heating off): only the production of sanitary hot water stays on;
- **AUTO** - The on-off operation: the temperature to be maintained in the heated environment, normally 20°C, can be set;
- **I** - Disabling of the environment thermostat (heating on): the heating is on and is controlled only by the equipment, i.e. by the heating thermostat.

If the thermostat is not installed, the –I- situation will always operate.

The heating timer (optional, built-in on the instrument panel) is fitted with the same lever, which, however, is located in the central position (AUTO); the on-off operation follows pre-set daily hours. The environment thermostat and the timer have no impact on the production of sanitary hot water



The environment thermostat can control the heating only if all the following conditions exist:

- the boiler is on
- the summer-winter switch of the boiler is on Winter,
- the boiler's heating temperature regulation is not set on too a low value.

The environment thermostat can be replaced by a timer-thermostat, which combines the environment thermostat's and the timer's functions (heating time setting) into one single device. If this is the case, the heating operation daily times need to be set too.

When the environment thermostat's contact is open, the microprocessor carries out a 5-second post-circulation in order to prevent the overheating of the boiler's primary water.

2.7 Boiler Monitoring

The two displays on Corolla 26's control panel provide the user with the following information:

- Boiler operation status
- Temperatures set by the user (set point)
- Current temperatures of the hot water sent to the heating system
- Current temperatures of the hot water sent to the sanitary system (Corolla 26, XER version)
- Error signalling

2.7.1 Boiler Operation Status

The left display, the one with one digit only, shows the boiler's current operation status, represented by a number ranging between 0 and 4

0

The boiler is on, but the burner is off since no hot water is required for heating or for sanitary purposes

3

The boiler is on, the burner is on because hot water is required by the heating system

1

The boiler has just been switched on, the burner is off, the fan is operating to eliminate any residual flue gas from the combustion chamber

4

The boiler is on, the burner is on because hot water is required by the sanitary system

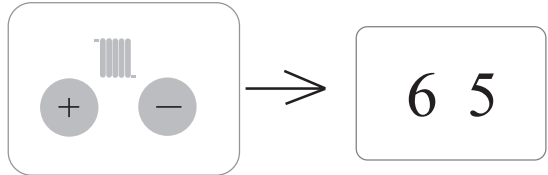
2

The boiler has just been switched on, the burner is being switched on (electrode sparking)

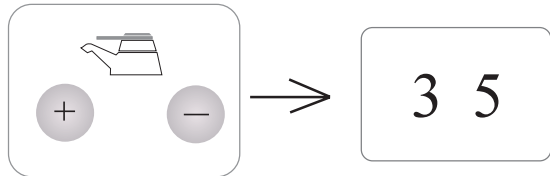
2.7.2 Temperatures Set by the User

As described earlier, the user can set the hot water delivery temperature for the heating system and for home (sanitary) purposes.

To know the set heating temperature, simply press either the "+" or the "-" button of the heating system once. The value set by the user, expressed in centigrade degrees, will be shown on the right, two-digit display.



To know the set sanitary temperature, simply press either the "+" or the "-" button of the heating system once. The value set by the user, expressed in centigrade degrees, will be shown on the right, two-digit display.



2.7.3 Heating and Sanitary Water Current Temperatures

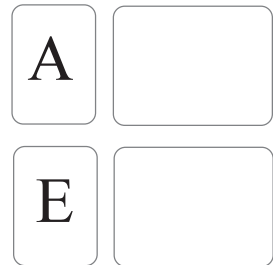
In a specific moment, the current temperatures of heating or sanitary water are shown on the right, two-digit display. If the burner is on, the temperature shown on the display will vary until the value set by the user is reached.

2.7.4 Error Signalling

Boiler Corolla 26 is fitted with a failure self-diagnosis system helping the maintenance operator identify the reason for the malfunctioning.

When a technical anomaly takes place, the left display shows either letter "A" or letter "E", while the right display shows an error numeric code, which will help the maintenance operator identify the potential cause.

If letter "A" is shown on the left display, the "RESET" button needs to be pressed after eliminating the reason for the failure. If letter "E" is shown on the left display, the boiler will go back to normal operation, with no need to press the "RESET" button, once the reason for the failure has been eliminated.



Technical Data: Corolla 26	U.M.	X	S
Gas category		I12H3+	I12H3+
Thermal carrier fluid		Water	Water
Heating/sanitary maximum operating pressure	bar	3/6	3
Heating/sanitary minimum operating pressure	bar	0.5/0.15	0.5
Power supply	V	230V	230V
Furnace thermal power (Hs)	kW	7÷26	7÷26
Furnace thermal power (Hi)	kW	6.3÷23.4	6.3÷23.4
Nominal power supplied by water 100% (80° – 60° C)	kW	22.90	22.90
Nominal power supplied by water 100% (50° – 30° C)	kW	25.10	25.10
Nominal power supplied by water 100% (60° – 40° C)	kW	24.40	24.40
Hourly condensate production 100% (50° – 30° C)	(kg/h)	3.6	3.6
Estimated efficiency on Hi (Directive EEC 92/42)			****
Efficiency at nominal power (80° – 60° C)	%	97.7	97.7
Efficiency at nominal power (50° – 30° C)	%	107.3	107.3
Efficiency at nominal power Tm = 50° C (60 – 40° C)	%	104.2	104.2
Efficiency at reduced load 30% (80° – 60° C)	%	98.2	98.2
Efficiency at reduced load 30% (50° – 30° C)	%	108.7	108.7
Efficiency at reduced load 30% Tm = 50° C (60 – 40° C)	%	105.6	105.6
Combustion efficiency (80° - 60° C; Ta = 20° C)	%	98.1	98.1
Chimney loss with operating burner (80° – 60° C) = pf	%	1.9	1.9
Combustion efficiency (50° - 30° C, Ta = 20° C)	%	99.3	99.3
Chimney loss with operating burner (50° – 30° C) = pf	%	0.7	0.7
Chimney loss with burner off pf_{b5}	%	0.1	0.1
Leaks from the shell (Tm = 70° C)	%	0.2	0.2
Flue gas temperature	°C	Return temperature + 5°C	
Production of sanitary hot water			
Production of sanitary hot water – dT = 25° C	l/min	13.1	
Production of sanitary hot water dT = 35° C	l/min	10.9	
Regulation Range			
Heating temperature regulation (minimum / maximum)	°C	20÷80	20÷80
Sanitary temperature regulation (minimum / maximum)	°C	40÷65	40÷65
Pollutants in exhaust gas*			
Carbon monoxide CO (% O2) (Min p ÷ Max p)	ppm	7÷60	7÷60
Nitrogen oxides (NOX) (Min p ÷ Max p)	ppm	11÷13	11÷13
NOX class (as per EN297)		5	5
(*) Fuel gas G20			
Size and weight			
Height	mm	700	700
Depth	mm	400	400
Dry weight	mm	300	300
	kg	38	38
Hydraulic connections			
System delivery	in	G ¾" M	G ¾" M
Sanitary circuit delivery	in	G ½" M	
Gas infeed	in	G ½" M	G ½" M
Sanitary circuit return	in	G ½" M	
System return	in	G ¾" M	G ¾" M
Flue gas suction and exhaust (split)	mm	50	50
Condensate drainage pipe	mm	18	18